

NAGAYA et al
Appl. No. 10/029,005
September 3, 2003

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

The Examiner's attention is drawn to the attached Form PTO-1449 calling attention to five references. Copies of these Japanese references as well as English Abstracts of same will be forwarded by hand delivery as soon as the undersigned can obtain a copy of them. The IDS fee for this stage of prosecution is also attached. The first two references cited are already briefly discussed at page 2 of the specification.

Formal consideration and citation of these references is respectfully requested.

In an attempt to better focus the claimed subject matter of this case, all original claims 1-39 have now been canceled without prejudice or disclaimer in favor of new claims 40-44. In general, new claims 40-44 correspond to original claims as noted below:

New claim 40 is comparable to a combination of original claims 1, 5, 7, 9 and 10;

New claim 41 is comparable to a combination of original claims 11, 14, 18 and 19;

New claim 42 is comparable to a combination of original claims 11, 16, 18 and 19;

New claim 43 is comparable to a combination of original claims 20, 26, 28, 30 and 31; and

New claim 44 is comparable to a combination of original claims 32-36, 38 and 39.

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In response to the rejection of original claims 4, 25 and 32-39 under 35 U.S.C. §112, second paragraph, new claim 44 has been drafted to more succinctly state that it is the percentage of the ceramic layers covered by an internal electrode layer that must be not less than 75%. The “electrode forming ratio” is described at several places throughout the specification. However, perhaps one relatively easy to understand passage is at the paragraph beginning at page 19, line 21, describing a typical conventional situation using Ag-Pd electrode materials where the electrode forming ratio was required to be not more than about 75%. As described in the specification, this is because the bonding strength between the electrode material and the ceramic material was not sufficient and thus there needed to be at least 25% of the whole lamination bonding area left for direct bonding between ceramic layers without the intermediary of electrodes. Of course, this reduced electrode forming ratio presented increased electrical resistance and perhaps other problems. Among the many advantages of the applicants invention is the ability to achieve much greater electrode forming ratios so that substantially all of the ceramic material is covered by electrode material (i.e., wherein the electrode forming ratio is not less than 75%). This feature is also clearly illustrated in

Figure 2.

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However, by simply avoiding the term “electrode forming ratio” in the claims, it is believed to now be more clearly stated that the requirement is simply for the percentage of the ceramic layers covered by internal electrode layers to be not less than 75%.

This feature is not required by other of applicants claims and therefore all of the Examiner’s grounds for rejection under the second paragraph of 35 U.S.C. §112 are now believed to have been obviated.

The rejection of claims 1-39 under 35 U.S.C. §102 as allegedly anticipated or, in the alternative, made “obvious” based on apparently any one of Schuh, Harada or Yasuda is respectfully traversed.

The Examiner has simply assumed that because these references allegedly teach the use of copper or copper alloyed electrodes that they must inherently also exhibit all of the same parameters and/or properties claimed by the applicant. However, apparently recognizing that this conclusory assertion of inherency might not be well grounded, the Examiner also alleges in a conclusory fashion that “routine experimentation” towards optimizing an integrally fired laminated piezoelectric transducer would naturally result in the “obviousness” of all of applicants discoveries in the claimed subject matter.

To better focus the claimed subject matter so as to clearly obviate the Examiner’s conclusory assertions, all original claims 1-39 have now been canceled without prejudice or disclaimer in favor of new independent claims 40-44. It is respectfully submitted that

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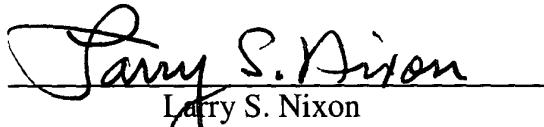
these new claims now clearly and definitely define subject matter which is not anticipated or made obvious in view of any teaching or suggestion of the cited references.

Accordingly, this entire application is now believed to be in allowable condition and a formal notice to that effect is respectfully solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:



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Attachments: Replacement Sheet of Figure 1
PTO Form 1449--IDS

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1/9 PROPOSED DRAWING AMENDMENTS
FOR SN 10/029,005

Fig.1

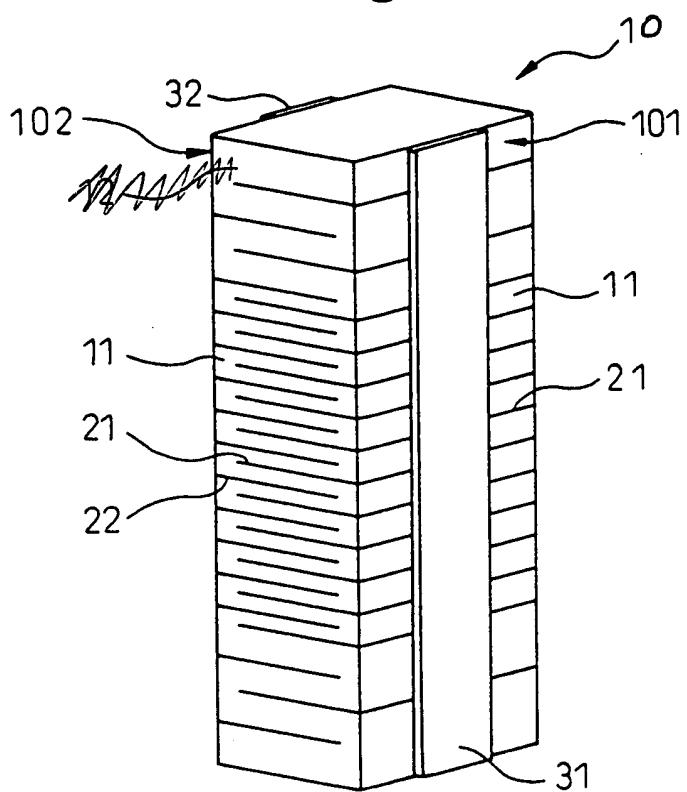


Fig.2

